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Ontario

REPORT OF THE
SPECIAL TASK FORCE
ON ONTARIO'S

Pulp and Paper Industry



Ministry of
Industry and
Tourism

Cable Address
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Queen's Park
Toronto
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November 16th, 1978

The Honourable Frank Miller
Treasurer of Ontario

I am pleased to submit the report of the
Special Task Force on Ontario's Pulp and Paper Industry.

The following Ontario officials contributed
their expertise to this assignment.

Mr. W. Bidell)	
Mr. W. Suboch)	Ministry of Environment
Mr. J. Donnan)	
Mr. A. Herridge)	
Mr. D. Cope)	Ministry of Natural Resources
Mr. T. Salerno)	
Mr. B. Davies)	Ministry of Treasury and
Mr. L. Koskitalo)	Economics
Mr. R. LeNeveu)	Ministry of Northern Affairs

CHAIRMAN

Ministry of Industry and
Tourism

REPORT OF THE SPECIAL TASK FORCE

ON

ONTARIO'S PULP AND PAPER INDUSTRY



INTRODUCTION

This Task Force was given the assignment of designing a practical plan of government assistance to Ontario's pulp and paper mills. Over the past decade, this important industry has lagged behind its foreign competitors, largely because of inadequate investment in new plant and equipment. Massive investments are necessary to modernize the mills, to improve productivity and to meet the Province's environmental requirements.

The Task Force is convinced that the required investment will not occur and the industry will fall further behind, in the absence of powerful incentives. Accordingly, we are proposing a package of major fiscal and financial incentives aimed at correcting the problems of Ontario's pulp and paper mills and restoring their competitive position. The incentives will also ensure that Provincial objectives for environmental quality at each of the mills will be met within the next five years.

In carrying out this assignment, we enjoyed full co-operation from the individual companies and we received valuable inputs from union representatives. As well, we have kept federal officials informed of our thinking and invited participation by the Government of Canada. As a result of this process, the Task Force is confident that there is a broad agreement on the objective and the methods we are proposing to reinforce this basic Ontario industry.


BACKGROUND ON ONTARIO'S PULP AND
PAPER INDUSTRY

The pulp and paper industry in Ontario and Canada has been studied exhaustively in recent years and its problems have been well documented. Appendix I to this report lists a dozen major studies which have been published in the last two years. The Task Force has not repeated this research; instead we have looked at the overall performance of this industry and indicated why there is a strong case for government assistance.

Economic Importance

Ontario's pulp and paper industry consists of twenty companies which own or control forty pulp and paper mills across the province. Details on these mills - location, capacity, employment and products - are set out in Appendix III to this Report.

The industry makes a valuable contribution to Ontario's economic well-being. It ranks as our fifth largest manufacturing industry in terms of production, our third largest exporter and our sixth largest employer. In 1977, the pulp and paper industry provided jobs directly for some 28,000 workers in the forests and in the mills. A further 40,000 jobs are indirectly dependent on this industry through the goods and services it purchases and the incomes it generates.



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The importance of this industry to the Ontario economy, however, is most critical in terms of its regional and local impact. Processing timber into pulp and paper products accounts for three-quarters of the manufacturing activity in Northwestern Ontario, one-quarter in Northeastern Ontario and a significant element in Eastern Ontario. The pulp and paper mill is the *raison d'etre* for many communities, such as Smooth Rock Falls, Marathon, Iroquois Falls, Terrace Bay, Red Rock, Kapuskasing, Dryden, Espanola, and Fort Frances. As Table 1 shows, the very existence of these outlying communities depends on maintaining viable pulp and paper mills, because there are no alternative economic opportunities or ways to make a livelihood.

This Task Force believes that preserving these vulnerable communities is sufficient reason in itself for assisting this industry.

TABLE 1

IMPORTANCE OF PULP & PAPER COMPANY EMPLOYMENT TO COMMUNITIES

Community and Percentage of Its Total Employment in Pulp & Paper Co. Operations	Number of Employees* residing in community/elsewhere	Company Name(s)
Smooth Rock Falls 62.5	550/120	Abitibi
Marathon 57.9	620/250	American Can
Iroquois Falls 50.2	1200/310	Abitibi
Terrace Bay-Schreiber 48.6	800/930	Kimberly Clark
Red Rock-Nipigon 44.4	750/230	Domtar
Kapuskasing 39.5	2300/125	Spruce Falls, Kimberly-Clark
Dryden 38.4	1300/400	Reed
Espanola 33.7	970/530	Eddy
Fort Frances 29.7	1200/20	Boise Cascade
Kenora-Keewatin 17.3	1175/85	Boise Cascade
Sturgeon Falls 15.5	420/-	Abitibi
Hawkesbury 11.1	550/-	C.I.P.
Thunder Bay 10.0	4900/890	Great Lakes, Abitibi
Cornwall 7.2	1400/-	Domtar
Napanee 4.9	220/-	Strathcona
Thorold-St. Catharines 3.0	2500/-	Ont. Paper, Abi., Domtar, Beaver, K-C.
Huntsville 2.3	100/-	Kimberly-Clark
Trenton 1.9	290/-	Trent Valley, Domtar
Sault Ste. Marie 1.6	500/150	Abitibi
North Bay 1.0	200/-	Nordfibre
Brantford 0.9	300/-	Sonoco
Ottawa 0.3	580/-	Eddy
Toronto-Peel-Halton 0.1	1250/-	Cont. Can; Rolland, Domtar, Atl; Reed, Dom. Cell; IKO; Abitibi

*Includes pulp and paper mills, and integrated sawmill and logging operations.

Competitive Position

Without a depreciated dollar, Ontario's pulp and paper industry is not fully competitive. The reason for this is straightforward; Ontario companies operate under significant cost disadvantages in relation to their U.S. competitors and to producers in British Columbia. The higher costs in Ontario show up in most of the major cost components - wood, energy, labour, and transportation - as documented in the recent study, "Analysis of Manufacturing Costs in North American Forest Products Industries".

TABLE 2MARKET KRAFT PULP AVERAGE MANUFACTURING COSTS-\$/AIR DRY TON

<u>Cost Items</u>	<u>Northern Ontario</u>	<u>B.C. Interior</u>	<u>B.C. Coast</u>	<u>Northwest U.S.A.</u>	<u>Southeast U.S.A.</u>
Wood	128	77	89	69	80
Chemicals	36	25	21	26	35
Other Materials	18	24	21	25	26
Energy	28	15	18	27	18
Labour	38	31	37	25	27
Administration	30	25	21	25	12
Depreciation	10	14	10	16	13
Transportation	<u>26</u>	<u>45</u>	<u>33</u>	<u>31</u>	<u>31</u>
TOTAL COSTS	314	256	250	244	242

NEWSPRINT, AVERAGE MANUFACTURING COSTS-\$/FINISHED TON

<u>Cost Items</u>	<u>N. Ontario N.E. Quebec</u>	<u>B.C. Interior</u>	<u>B.C. Coast</u>	<u>Northwest U.S.A.</u>	<u>Southeast U.S.A.</u>
Wood	71	-	61	45	44
Chemicals	6	-	7	10	10
Other Materials	19	-	25	24	25
Energy	26	-	24	39	50
Labour	49	-	51	43	38
Administration	27	-	25	14	19
Depreciation	8	-	11	20	13
Transportation	<u>37</u>	<u>-</u>	<u>34</u>	<u>27</u>	<u>11</u>
TOTAL COSTS	243	-	238	222	210

To restore the competitive position of Ontario's pulp and paper industry requires concerted action to bring its costs back into line. Some positive steps already have been taken. Recent contract settlements for Ontario mill-workers provide for 15 per cent over the next two years; this reasonable and responsible labour contract will result in a narrowing of the wage differential between Ontario and the United States. In respect of wood costs, the Ontario Government has a major role to play in terms of improving access, yields and long-term supply through better forest management. The Ministry of Natural Resources is currently developing new policy measures towards this end.

This Task Force has focused on our cost disadvantages at the plant and equipment end; here the problem is essentially due to the old age and small size of our mills. The majority of Ontario mills were established long before modern and more efficient technologies were available and before environmental concerns were prominent. Over the past decade, the investment to modernize these plants and achieve productivity gains has been clearly inadequate. Consequently, the industry now requires enormous capital spending to modernize and close the efficiency gap with its competitors, and to meet environmental objectives. A recent study prepared by the Ministry of Natural Resources, "The Ontario Pulp and Paper Industry - Status and Outlook", estimated this requirement at \$1.2 billion over the next five years.

TABLE 3

ESTIMATED CAPITAL NEEDS FOR ONTARIO'S PULP AND
PAPER MILLS - next 5 years

	<u>Number of Mills</u>	<u>Production Capacity</u> (tons per day)	<u>Capital Needs 1978 Dollars</u> (millions)
Abitibi	9	3,120	300
American Can	1	475	65
Boise Cascade	2	1,855	30
CIP	2	420	30
Domtar	6	1,980	85
Eddy	2	930	120
Great Lakes	1	2,490	55
Kimberly-Clark	4	1,545	20
Ontario Paper	1	745	210
Reed	2	845	150
Spruce Falls	1	1,175	70
9 Smaller Companies	<u>9</u>	<u>1,685</u>	<u>50</u>
TOTAL, all companies	40	17,265	1185*

* Revised downward from the figure of \$1,222 million estimated in "Status and Outlook", to reflect recent expenditures and changes in plans by some companies.

The Task Force is convinced that capital on this scale cannot be generated by the industry itself and the Government will have to provide some of these funds.

Financial Performance

Given its cost disadvantages and its need to sell in competitive international markets, one would expect the profit performance of our pulp and paper industry to be well below average. This, indeed, is the case. The profitability of the Canadian (and Ontario) pulp and paper industry has been significantly lower than that of Canadian industries generally, as well as that of U.S. forest products companies, as documented in Table 4. This poor and erratic profit performance in itself is one of the principal reasons why new capital is not attracted to this industry.

TABLE 4

<u>AFTER TAX RETURN ON SHAREHOLDERS' EQUITY (Per Cent)</u>					
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
Canadian Forest Products Companies	6.8	15.4	19.7	6.2	6.6
Top 100 Canadian Industrials	10.3	14.1	16.2	12.8	11.6
U.S. Forest Products Companies	9.1	15.5	17.1	11.8	13.8

Over the past five years, Ontario pulp and paper companies have not generated sufficient earnings to finance the reinvestment required to restore their mills to a competitive position. Table 5 shows that over the past five years the ten largest companies earned \$840 million, of which only \$310 million was available for reinvestment

after paying income tax and meeting obligations to shareholders and parents. Moreover, high rates of inflation have borne heavily on this capital-intensive industry, diverting funds towards working capital which otherwise would have been available for modernizing plant and equipment. And, an increasing share of what capital has been available has been required for pollution control assets which do not contribute directly to productivity improvement or future profits.

TABLE 5

FINANCIAL SUMMARY - 10 LARGEST PULP AND
PAPER COMPANIES IN ONTARIO
(\$ millions)

Year	Pre-Tax Earnings	Fed. & Ont. Income Tax	Dividends Paid	Payments to Parents	Earnings Available to Reinvest
1977	107.7	13.9	31.2	6.0	56.6
1976	62.7	13.3	30.6	5.6	13.2
1975	176.0	24.3	118.2	5.7	27.8
1974	354.8	84.9	88.7	4.8	176.4
1973	<u>138.4</u>	<u>34.8</u>	<u>64.6</u>	<u>2.7</u>	<u>36.3</u>
TOTAL (5 years)	<u>839.6</u>	<u>171.2</u>	<u>333.3</u>	<u>24.8</u>	<u>310.3*</u>

* Taking into account funds set aside for depreciation, the actual cash flow available for reinvestment was somewhat larger.

1978 has turned out to be an exceptional year for the pulp and paper industry. Demand is buoyant and capacity utilization has increased; there have been price rises for newsprint and market pulp; and profits have risen dramatically. Financial results for the first three-quarters for the following four companies are indicative of this welcome rebound.

TABLE 6

	<u>PROFITS FOR THREE-QUARTERS</u>		
	<u>1978</u>	<u>1977</u>	<u>Increase</u>
	(\$ millions)		(%)
Abitibi	54.3	21.6	+151.8
Great Lakes	11.6	9.4	+ 23.7
Domtar	41.0	17.4	+135.6
Reed	(3.4)	(9.6)	
Total - 15 Cdn. Forest Products Companies*	352.7	181.5	+ 94.3

* Globe and Mail, November 4, 1978.

What must be recognized, however, is that this exceptional performance is not due to correction of the underlying weaknesses in this industry. Fully 60 per cent of the profit increase is attributable to foreign exchange gains from the devalued Canadian dollar, and most of the remainder to improved market conditions. Both of these helpful factors could easily reverse and profits would plunge as quickly as they have risen. The Task Force believes it is essential, therefore, that we capitalize

on the present opportunity by encouraging Ontario companies to reinvest and create in modern and competitive facilities.

ENVIRONMENTAL REQUIREMENTS

Over the past decade, Ontario pulp and paper companies have spent some \$110 million on specific pollution abatement facilities to reduce their discharges to water, air and land. In addition, a further \$92 million has been spent on related projects which are a necessary part of pollution control though their primary purpose is financial, e.g. pulp washing to remove spent cooking chemicals. As a result of this substantial investment there has been considerable progress towards Ontario's environmental goals. Total suspended solids in the effluent - bark, wood chips and fibre - have been reduced by 85 per cent from the 1968 level. Since 1969, BOD₅ has been reduced by more than 30 per cent. And progress has also been made in reducing odours and particulate emissions from recovery furnaces, digestors and evaporators.

The past record of environmental compliance among Ontario pulp and paper companies has been quite uneven. Some companies have met all of the primary treatment requirements and are well advanced in removing the dissolved chemicals that deplete oxygen in the receiving watercourse. Other companies have not met the requirements and the timetable established for their mills by The Ministry of Environment, usually because of a weak financial position and small scale of operation.

This differential record of compliance cannot be allowed to persist in the future. The Control Orders established by MOE have been tailored to the conditions at each individual mill and incorporate only proven technology. Accordingly, the Task Force urges that the legal requirements set out in the current Control Orders be fully enforced in terms of substance and timing.

The cost of meeting MOE's current Control Orders (which run from 2 to 5 years) is estimated at \$124.7 million for direct pollution abatement and \$55.4 million for related projects. One of the major objectives to be achieved during this immediate period is reduction in the discharge of spent sulphite liquor from the remaining sulphite pulping mills. The specific capital items that are required for environmental purposes for each mill are documented in Appendix III. Upon completion of these immediate environmental requirements, the industry will be in a position to address residual long-term objectives. Appendix II to this Report sets out Ontario's long-term environmental objectives for the pulp and paper industry. The additional costs associated with these long-term environmental goals are estimated at \$231 million.

The Task Force recognizes that all of the abatement cost burdens that we have identified cannot be passed on by Ontario companies to their customers. We also recognize that pollution abatement and modernization are often inseparable. Accordingly, the Task Force suggests a two-

stage program of government assistance. For the next five years Ontario should implement an incentive program to encourage investment on both modernization and environmental projects. Following that, a permanent subsidy program for environmental capital projects, along the lines of the Swedish system, merits consideration.

A PROGRAM OF INCENTIVES

Now is the ideal time, when markets are strong and earnings have rebounded, for companies to undertake the new investments which are essential to the future viability of Ontario's pulp and paper mills. Government can play a major role in triggering these investment decisions by providing incentives which increase the after-tax return on investment and reduce the cost of new capital. It is essential, however, that such a program of incentives remain in place over a long time period if companies are to respond most effectively.

The program of incentives which the Task Force proposes includes financial assistance valued at \$100 million in 1978 dollars, plus permanent tax reductions.

Permanent Tax Reductions

Although the Canadian tax system is generally competitive with that in the United States, this is not self-evident in respect of the pulp and paper industry. As recently as June 1978, the Sector Task Force on the Canadian

Forest Products Industry stated that "integrated forest products companies in Canada are still operating at a significant tax disadvantage in relation to integrated forest products companies in the United States". Since then, the tax cut bill passed by Congress has reduced the U.S. corporate tax rate by 2 points and liberalized the investment credit, thereby improving ~~the~~ after-tax position of American pulp and paper companies.

As an immediate measure, therefore, this Task Force recommends the following across-the-board changes to eliminate any tax disadvantage to Canadian companies.

- . Accelerated depreciation for air and water pollution control assets should be made a permanent feature of the capital cost allowance system. This incentive for class 24 and class 27 property is presently scheduled to expire at the end of 1979.
- . The two-year fast write-off for manufacturing and processing machinery (class 29) should be broadened to include logging machinery.
- . Logging income should qualify for the same 6 point deduction in federal tax that is available to manufacturing and processing income. This would reduce the combined federal/Ontario tax rate on logging operations from 49 per cent to 43 per cent.

These three tax changes would provide specific benefits to the pulp and paper industry all across Canada, and represent in our view the best way the Government of Canada can assist this industry over the long run. The Treasurer of Ontario has already recommended these beneficial tax changes to the Minister of Finance. Under Ontario's Corporations Tax, the improvements in capital cost allowances would automatically be paralleled in the provincial tax structure.

Enrichment of Canada's investment tax credit represents another measure which would be of major value to the pulp and paper industry in all regions of Canada. This Task Force believes that increasing the investment tax credit merits top consideration in terms of keeping Canada's tax structure fully competitive with that in the United States.

Reduction in Ontario's Corporate
Income Tax Rate

The scope for independent tax incentives by Ontario is quite limited in terms of the corporation taxes collected from pulp and paper companies. More important, however, such a form of incentive would represent a departure from the Province's policy of maintaining a corporate tax structure which is uniform and consistent with the national tax structure. The only tax option that Ontario should consider on its own part, therefore, is a reduction in its corporate income tax rate.

The Task Force suggests that Ontario reduce its corporate tax rate as a performance incentive to reward environmental compliance. Rather than an across-the-board reduction to all companies, we propose a reduction from the 13 per cent rate to a 10 per cent rate for those pulp and paper companies which fully meet provincial environmental requirements. This would constitute a visible good performance bonus to those companies that have already made the necessary environmental investment. It would also encourage the remaining companies to earn an equivalent tax status by accelerating their programs of environmental investment. The cost of this tax incentive will average about \$2 million per year when all companies have achieved full compliance status. The mechanism for delivering this tax reduction would be an annual certification from MOE to the Ministry of Revenue.

Financial Assistance

In discussing incentive alternatives with the industry, the Task Force ran up against the formidable fact that there are tremendous differences among the companies in terms of needs and financial capacities. What is a practical form of government assistance for some companies is of little use or is counterproductive for others. For example, some companies have limitations on debt or special arrangements with a parent which would preclude their access to direct or

guaranteed loans from the Province. Similarly, on the environmental side, what one company still needs to spend on a particular item, others have long since spent. In the face of these differences, the Task Force has formulated three general rules to ensure that maximum benefits will derive from the Government's financial assistance, and that individual companies are treated in the most evenhanded and equitable manner possible.

- . The incentive would apply only to investments put in place in the future, not to past investments.
- . The incentive would apply to modernization projects as well as to pollution abatement projects and joint projects.
- . Companies should contribute at least \$3 of their own money for every \$1 of provincial money.

Within these general rules, the Province should be prepared to be flexible as to the form of its financial assistance. At this time of high interest rates, for example, subsidization of interest costs over five years may be particularly appropriate for some companies. Companies should be encouraged to present concrete investment proposals to the Government so that an optimal arrangement can be developed for each individual situation.

Wherever possible, however, the Task Force recommends the simplest form of financial assistance, namely, direct grants equal to 25 per cent of the costs of approved capital projects. To stretch out the impact on the Province's own

finances, these grants can be paid in five annual instalments but grossed up to reflect current value. Thus, assuming a discount rate of 11 per cent, provincial grants totalling \$27 million per year for the next five years would deliver \$100 million in present value assistance to the industry. On this basis the Province could stimulate \$400 million of new capital projects. This investment will expand the local tax base and provide new construction jobs in the affected communities.

One problem that arises under any form of financial assistance is that current Income Tax legislation effectively taxes back the assistance. The Treasurer has requested the Minister of Finance to review whether this provision can be suspended so that the full value of Ontario's financial incentive is delivered to the companies. In the event that the Government of Canada undertakes the tax reductions we have previously suggested, this taxback effect will be reduced considerably.

The Task Force is confident that the companies will respond strongly to this program of financial assistance, in which case the proposed funding will be oversubscribed. We suggest, therefore, that additional funding be sought from the Government of Canada under its DREE program.

Implementation Procedure

It will be necessary to establish an Advisory Group to review and assess the investment proposals submitted by

the companies. We suggest a small group consisting of officials from the Ministries of Environment, Natural Resources, Treasury, and Industry and Tourism. Such a mechanism will permit quick implementation of the incentive program and ensure consistent and evenhanded allocation of the provincial assistance among the various companies.

We also suggest a follow-up initiative to secure maximum Canadian content in the major investment projects to be undertaken by the pulp and paper industry. A recent report by the Ministry of Environment, "The Pollution Control Equipment Industry in Ontario", documents that a significant component of pollution control equipment installed in Ontario has been imported. It recommends that Canadian products be promoted to the fullest possible extent. This Task Force believes that such import replacement is an important objective not just for pollution control equipment but for capital projects generally. The upcoming wave of new investment in the pulp and paper industry presents an immediate opportunity to source the equipment, supplies, and services in Canada. Accordingly, we recommend that Ontario bring together the pulp and paper companies and the appropriate Canadian manufacturers, suppliers and contractors, with the specific purpose of maximizing Canadian value-added and employment from these investment projects.

APPENDIX I

SELECTED STUDIES OF THE PULP AND PAPER INDUSTRY

- ① Analysis of Manufacturing Costs in Some Scandinavian Pulp and Paper Industries, prepared by Jaako Poyry for the federal Department of Industry, Trade and Commerce, July, 1978.
2. A Report by the Sector Task Force on the Canadian Forest Products Industry, prepared for the federal Department of Industry, Trade and Commerce, June, 1978.
3. The Ontario Pulp and Paper Industry - Status and Outlook, prepared by the Ontario Ministry of Natural Resources, April, 1978.
4. Submission on Investment Incentives, prepared by the Canadian Pulp and Paper Association for the Federal-Provincial Conference on the Economy, January, 1978.
5. The Forest Industry in the Economy of Ontario, prepared by the Ontario Ministry of Natural Resources, August, 1977.
6. Review of the Canadian Forest Products Industry prepared by the federal Department of Industry, Trade and Commerce, November, 1977.
7. Historical and Future Sources and Uses of Capital for the Pulp and Paper Sector of the Canadian Forest Products Industry, prepared by Wood Gundy Ltd. for the federal Department of Regional Economic Expansion, October, 1977.
8. Status Report on Abatement of Water Pollution from the Canadian Pulp and Paper Industry - 1976, prepared by the federal Department of Environment, September, 1977.
9. Position Paper on Environmental Issues, prepared jointly by nine Ontario pulp and paper companies and presented to the Ontario Ministry of the Environment, June, 1977.
10. Analysis of Manufacturing Costs in the North America Forest Product Industries, prepared by Sandwell Management Consultants Ltd., for the federal Department of Industry, Trade and Commerce, April, 1977.
11. Analysis of Wood Costs in the North American Forest Products Industries, prepared by Peat, Marwick & Partners for the federal Department of Industry, Trade and Commerce, April, 1977.
12. Alternative Policies for Pollution Abatement - The Ontario Pulp and Paper Industry, prepared by J.A. Donnan and P.A. Victor, Ontario Ministry of Environment, 1976.

APPENDIX II

ENVIRONMENTAL OBJECTIVES

FOR THE PULP AND PAPER INDUSTRY

Wastes and other external effects generated by the normal production and consumption activities of society often conflict with or preclude other legitimate uses of the air, water or land. Regulatory activities of the Ministry of the Environment are necessary to protect human health and to protect and reclaim environmental resources for a wide variety of beneficial uses.

The goal of the Government of Ontario with respect to surface waters is:

"To ensure that the surface waters of the Province are of a quality which is satisfactory for aquatic life and recreation."¹

With respect to air quality, regulations and standards for various contaminants have been enacted that are intended to protect human health and to prevent damages to plants, animals and property.

In the context of these overall goals, environmental objectives for pulp and paper mills in the province may be stated more explicitly. Before doing this, it must be

1

Ontario Ministry of the Environment Water Management in Ontario, Staff Discussion Document, Revised Draft - June 5, 1978, p.2.

emphasized that important environmental conditions and technical factors are different for each pulp and paper mill. For example, the ability of the receiving air and water to assimilate waste products differs substantially from one location to another. The numbers of people exposed to the various pollutants vary from place to place as well. Moreover, alternative non-polluted water bodies for recreational use may be more available in one location than in others.

Consequently, individual abatement programs have been established at each mill to achieve the following objectives:

WASTEWATER

1. Mandatory Treatment - all mills must treat wastewaters to remove suspended and settleable solids. This is necessary (but sometimes not sufficient) to create aquatic conditions that will support fish and other aquatic organisms.
2. Protection of Potable Water Supplies - mill effluents must not adversely affect existing or proposed water supplies.
3. Contact Recreation - where swimming is an appropriate activity, mill effluents must not preclude this use outside of a prescribed mixing zone.

4. Protection of Fish Life - mill effluents must be such that:
 - a) water quality in a river will support fish life under prescribed design conditions;
 - b) water quality in a lake will support fish life outside of a prescribed mixing zone;
 - c) fish flesh will not be given a detectable, objectionable odour or flavour.
5. Aesthetic Considerations - mill effluent must not cause odours, foaming or discolourations that will give rise to public objection.

AIR QUALITY

1. Mills will achieve air quality standards specified in the provisions and the regulations of The Environmental Protection Act, 1971.

These objectives are consistent with those presented to the pulp and paper industry in January 1965 by the OWRC.² Further comments and details about environmental goals, policies and objectives may be found in:

1. Water Management in Ontario; Revised Edition, 1978.
2. The Ontario Environmental Protection Act, 1971 and Regulation.

2

H.A. Clarke and E.W.C. Turner, "The OWRC Regulatory Program for The Pulp and Paper Industry". Paper presented at the Fifth Paper Industry Conference on Air and Stream Improvement, October 21-23, 1969, pp.2 - 3.

APPENDIX III

DETAILS ON ONTARIO'S PULP AND PAPER MILLS

NOTE: The figures for individual mills shown on the following pages are Government figures. They were developed by MOE after discussions with the companies, but do not correspond in all instances with the figures used by the companies themselves.

Name: ABITIBI PAPER COMPANY LTD

Location: Iroquois Falls Watercourse: Abitibi River

Established: 1915

Employees: 1150 pulp & paper mill, 360 woods
Employs 50.2% of the local working labour force

Products & newsprint, 940 tpd
Capacities: paperboard for roll wrappers & cores, 45 tpd (100% captive)

Major Capital Items - Environment:

	Immediate	1979-1983	Long-Term	1983-1990
	Joint	Pollution	Joint	Pollution
TCMP mill	-	-	30.0	-
activated sludge plant	-	-	-	2.5
particulate control	-	-	-	0.9
assorted environmental projects	-	2.8*	-	-

* Legally committed under a Control Order which was issued on December 20, 1977 with a final completion date of June 30, 1983.

Name: ABITIBI PAPER COMPANY LTD

Location: Sault Ste. Marie Watercourse: St. Mary's River

Established: 1895

Employees: 500 pulp & paper mill, 150 woods
Employs 1.6% of the local working labour force

Products &
Capacities: groundwood specialty papers, 380 tpd

Major Capital Items - Environment:

	Immediate Joint	1979-1980 Pollution	Long-Term Joint	1981-1990 Pollution
close woodroom effluent	-	-	-	0.2
diffuser pipe	-	-	-	0.3

Comments:

- an old newsprint mill which was shifted to groundwood papers following the closure of the sulfite pulp mill in 1972.

Name: ABITIBI PAPER COMPANY LTD

Location: Smooth Rock Falls Watercourse: Mattagami River

Established: 1917

Employees: 390 pulp mill, 40 sawmill, 240 woods
Employs 62.5% of the local working labour force

Products & Capacities: kraft market pulp, 350 tpd (30% captive)
lumber (2 x 4 studs), 35 million board feet per year

Major Capital Items - Environment:

	Immediate Joint	1979-1982 Pollution	Long-Term Joint	1983-1990 Pollution
control particulate & odour emissions	-	3.9*	-	-
condensate stripping & incineration	-	1.7*	-	-
brown stock washing	-	1.1*	-	-
separate sanitary wastes	-	0.2*	-	-
secondary treatment	-	-	-	8.1

* Legally committed under a Control Order which was issued on November 8, 1977 with a final completion date of December 31, 1982.

Comments:

- the mill was converted from sulfite to kraft in 1966.
- a refuse boiler was completed in 1977 to generate steam and electricity from wood waste. The mill is now self-sufficient in electricity generation.

Name: ABITIBI PAPER COMPANY LTD

Location: Sturgeon Falls Watercourse: Sturgeon River, Lake Nipissing

Established: 1900

Employees: 420
Employs 15.5% of the local working labour force

Products & paperboard (corrugating medium), 230 tpd
Capacities: hardboard siding, 100 tpd

Major Capital Items - Environment:

	Immediate	1979-1982	Long-Term	1983-1990
	Joint	Pollution	Joint	Pollution
suspended solids treatment	-	0.5*	-	-
BOD ₅ reduction	-	1.2*	-	-
clarifier	-	-	-	2.0

* Legally committed under a Control Order which was issued on November 3, 1977 with a final completion date of December 31, 1982.

Name: ABITIBI PAPER COMPANY LTD

Location: Thorold Watercourse: Old Welland Canal

Established: 1904

Employees: 570
Employs 0.7% of the local working labour force

Products & Capacities: fine papers, 300 tpd

Major Capital Items - Environment:

	Immediate Joint	1979-1981 Pollution	Long-Term Joint	1982-1990 Pollution
activated sludge plant	-	1.2*	-	-
particulate control	-	-	-	1.7

* Legally committed under a Control Order which was issued on November 10, 1977 with a final completion date of December 31, 1981.

Name: ABITIBI PAPER COMPANY LTD

Location: Thunder Bay (Bare Point) Watercourse: Thunder Bay, Lake Superior

Established: 1928

Employees: 370 pulp & paper mill, 330 woods
Employs 1.4% of the local working labour force

Products & Capacities: newsprint, 440 tpd

Major Capital Items - Environment:

	Immediate Joint	1979-1982 Pollution	Long-Term Joint	1983-1990 Pollution
TCMP mill	17.0*	-	-	-
pulp receiving system	1.5*	-	-	-
replace settling lagoon	1.8*	-	-	-
bark-fines recovery	-	0.5*	-	-
clarifier	-	-	-	2.0

* Legally committed under a Control Order which was issued November 24, 1977 with a final completion date of December 31, 1982.

Comments:

- one of three Abitibi mills in Thunder Bay. Modernization and environmental investments need to be planned jointly for all three mills.

Name: ABITIBI PAPER COMPANY LTD

Location: Thunder Bay (Fort William) Watercourse: Thunder Bay, Lake Superior

Established: 1922

Employees: 330 pulp & paper mill, 270 woods
Employs 1.2% of the local working labour force

Products & Capacities: newsprint, 365 tpd

Major Capital Items - Environment:

	Immediate Joint	1979-1980 Pollution	Long-Term Joint	1983-1990 Pollution
TCMP mill	-	-	25.0	-
bark-fines recovery	-	1.3*	-	-
clarifier	-	-	-	2.0

* Legally committed under a Control Order which was issued
November 24, 1977 with a final completion date of December 31, 1980.

Comments:

- one of three Abitibi mills in Thunder Bay. Modernization and environmental investments need to be planned jointly for all three mills.

Name: ABITIBI PAPER COMPANY LTD

Location: Thunder Bay (Port Arthur) Watercourse: Thunder Bay, Lake Superior

Established: 1919

Employees: 830 pulp & paper mill, 210 woods
Employs 2.1% of the local working labour force

Products & Capacities: printing & fine papers, 305 tpd

Major Capital Items - Environment:

	Immediate	1979-1980	Long-Term	1983-1990
	Joint	Pollution	Joint	Pollution
reduce suspended solids	-	1.0*	-	-
TCMP mill	-	-	12.0	-
clarifier	-	-	-	2.0

* Legally committed under a Control Order which was issued November 24, 1977 with a final completion date of December 31, 1980.

Comments:

- one of three Abitibi mills in Thunder Bay. Modernization and environmental investments need to be planned jointly for all three mills.
- sulphite mill was shut down in June, 1978.

Name: AMERICAN CAN OF CANADA LTD

Location: Marathon Watercourse: Peninsula Harbour, Lake Superior

Established: 1946

Employees: 620 pulp mill, 250 woods
Employs 57.9% of the local working labour force

Products & Capacities: kraft market pulp, 475 tpd (30% captive)

Major Capital Items - Environment:

	Immediate Joint	1979-1980 Pollution	Long-Term Joint	1981-1990 Pollution
condensate stripping & incineration	-	1.2*	-	-
boiler particulate control	-	1.2*	-	-
spill control	-	0.1*	-	-
sewer work	0.6*	-	-	-
recycle bleach effluent	-	-	0.6	-
secondary treatment	-	-	-	6.0
diffusion system	-	-	-	1.5
miscellaneous environmental improvements	-	-	-	0.8

* Legally committed under a Requirement and Direction which was issued June 23, 1977 with a final completion date of December 31, 1980.

Comments:

- the chlor-alkali plant, which was a source of mercury pollution, was shut down August 31, 1977.
- a new low-odour recovery furnace has been installed as part of a modernization and expansion program which will raise capacity to 600 tpd.

Name: BOISE CASCADE CANADA LTD

Location: Fort Frances Watercourse: Rainy River

Established: 1914

Employees: 1030 pulp & paper mill, 190 woods
Employs 29.7% of the local working labour force

Products & Capacities: groundwood specialty papers, 620 tpd
kraft market pulp, 475 tpd (21% captive)

Major Capital Items - Environment:

	Immediate	1979-1982	Long-Term	1983-1990
	Joint	Pollution	Joint	Pollution
clarifiers & in-plant controls	-	4.0	-	-
electrostatic precipitator	-	-	-	3.0
multiclones for bark burner	-	-	-	0.2
decolourize effluent	-	-	-	2.3

Comments:

- the kraft pulp mill was built in 1971 and one of the paper machines was installed in 1976.

Name: BOISE CASCADE CANADA LTD

Location: Kenora Watercourse: Winnipeg River

Established: 1924

Employees: 960 pulp & paper mill, 60 sawmill, 260 woods
Employs 17.3 % of the local working labour force

Products & newsprint, 750 tpd
Capacities: lumber (2 x 4 studs and railway ties), 30 million board
feet per year

Major Capital Items - Environment:

	Immediate Joint	1979-1982 Pollution	Long-Term Joint	1982-1990 Pollution
control particulate emissions & suspended solids	-	1.4*	-	-
aeration lagoon	-	-	-	10.3

* Legally committed under a Control Order which was issued April 27, 1978 with a final completion date of June 30, 1982.

Comments:

- the company may decide to install a TMP or TCMP plant. This would eliminate the need for an aeration lagoon. The cost would be \$35-70 million, depending upon whether only the sulfite pulping is replaced or some of the groundwood capacity is also shut down.

Name: CANADIAN INTERNATIONAL PAPER COMPANY LTD

Location: Hawkesbury Watercourse: Ottawa River

Established: 1898

Employees: 450 pulp mill, 100 research centre
Employs 11.1% of the local working labour force

Products & Capacities: sulfite dissolving pulp & paper pulp, 285 tpd

Major Capital Items - Environment:

	Immediate Joint	1979-1981 Pollution	Long-Term Joint	1982-1990 Pollution
chemical recovery system	-	15.0*	-	-
liquor collection	3.3*	-	-	-
bleachery effluent improvement	-	-	3.0	2.0

* Legally committed under a Control Order which was issued in January, 1975 with a final completion date of December 31, 1981.

Comments:

- the market for dissolving pulp has been declining and is not expected to reverse the trend.

Name: DOMTAR FINE PAPERS LTD (DOMTAR INC.)

Location: Cornwall Watercourse: St. Lawrence River

Established: 1883

Employees: 1,400
Employs 7.2% of the local working labour force

Products & specialty & fine papers, 540 tpd
Capacities: coated paperboard, 60 tpd

Major Capital Items - Environment:

	Immediate 1979-1983		Long-Term 1984-1990	
	Joint	Pollution	Joint	Pollution
miscellaneous environmental improvements	-	-	-	1.0

Comments:

- the mill has achieved compliance with environmental standards.

Name: DOMTAR PACKAGING LTD (DOMTAR INC.)

Location: Red Rock Watercourse: Nipigon Bay, Lake Superior

Established: 1945

Employees: 680 pulp & paper mill, 300 woods
Employs 44.4% of the local working labour force

Products & newsprint, 200 tpd
Capacities: paperboard (linerboard), 700 tpd (75% captive)

Major Capital Items - Environment:

	Immediate 1979-1983		Long-Term 1984-1990	
	Joint	Pollution	Joint	Pollution
air and water abatement	-	-	-	22.0

Comments:

- the mill has no legal requirement at present, but a Control Order is being developed, at which time substantial expenditures will be needed.

Name: DOMTAR FINE PAPERS LTD (DOMTAR INC.)

Location: St. Catharines Watercourse: Old Welland Canal

Established: 1911

Employees: 260
Employs 0.3% of the local working labour force

Products & fine papers, 200 tpd
Capacities:

Major Capital Items - Environment:

	Immediate	1979-1980	Long-Term	1981-1990
	Joint	Pollution	Joint	Pollution
sewer construction	-	-	-	1.8

Comments:

- the mill has achieved compliance with the environmental objectives of its current Program Approval.

Name: DOMTAR PACKAGING LTD (DOMTAR INC.)

Location: Trenton

Watercourse: Trent River

Established: 1926

Employees: 130

Employs 0.9% of the local working labour force

Products & Capacities: paperboard (corrugating medium), 175 tpd (90% captive)

Major Capital Items - Environment:

	Immediate Joint	1979-1983 Pollution	Long-Term Joint	1984-1990 Pollution
cleaning & dispersion	-	-	0.8	-
in-plant water controls	-	-	-	0.8

Comments:

- the mill has achieved compliance with environmental standards.

Name: E.B. EDDY FOREST PRODUCTS LTD

Location: Espanola Watercourse: Spanish River

Established: 1902

Employees: 950 pulp & paper mill, 200 sawmill, 350 woods
Employs 33.7% of the local working labour force

Products & kraft market pulp, 750 tpd (25% captive)
Capacities: packaging & specialty papers, 130 tpd
lumber, 90 million board feet

Major Capital Items - Environment:

	Immediate	1979-1984	Long-Term	1984-1990
	Joint	Pollution	Joint	Pollution
oxygen bleaching	4.4	-	-	-
electrostatic precipitator	-	2.2*	-	-
odour control & fish toxicity	-	3.0*	-	-
spill control	-	3.3*	-	-
secondary effluent treatment	-	12.0*	-	-
black liquor oxidation	-	1.0*	-	-
miscellaneous	2.6	0.5	-	1.0

* Legally committed under a Control Order which was issued February 28, 1978 with a final completion date of June 30, 1984.

Comments:

- capacity is being expanded to 1,000 tpd from 700 tpd
- when the capital program is completed, the mill should be in good competitive shape.

Name: E.B. EDDY FOREST PRODUCTS LTD

Location: Ottawa

Watercourse: Ottawa River

Established: 1905

Employees: 580

Employs 0.3% of the local working labour force

Products & printing & fine papers, 150 tpd

Capacities: paperboard (boxboard), 80 tpd

Major Capital Items - Environment:

	Immediate 1979-1983		Long-Term 1984-1990	
	Joint	Pollution	Joint	Pollution
deinking plant	-	-	2.5	-
secondary fibre plant	-	-	-	1.0
separate sanitary wastes	-	0.2*	-	-

* Legally committed under a Control Order which was issued May 23, 1978 with a final completion date of December 15, 1983.

Comments:

- the mill is not competitive in paperboard manufacturing, so this product line could be phased out.
- a plant (120 tpd) for processing secondary fibre and deinking may be installed to provide pulp for fine papers.

Name: THE GREAT LAKES PAPER COMPANY LTD

Location: Thunder Bay Watercourse: Kaministikwia River

Established: 1924

Employees: 1900 pulp & paper mill, 200 sawmill, 1750 woods
Employs 5.8% of the local working labour force

Products & Capacities: newsprint, 1250 tpd
kraft market pulp, 1240 tpd
lumber (2 x 4 studs), 100 million board feet per year
wafer- & particleboard, 240 tpd

Major Capital Items - Environment:

	Immediate Joint	1979-1980 Pollution	Long-Term Joint	1980-1990 Pollution
sulfite liquor recovery	-	-	-	30.0
closed-cycle kraft mill improvements	-	16.0*	-	-
effluent improvements	-	-	-	5.2
miscellaneous	-	-	0.6	-

* Legally committed under a Requirement and Direction which was issued on June 24, 1977 with a final completion date of December 31, 1980.

Comments:

- world's first closed-cycle kraft mill (750tpd) was completed in 1976, and, pending resolution of technical difficulties, will extend concept to original mill.
- the wafer-and particleboard mill was built in 1975.
- the company is exploring recovery of energy and chemicals from the sulphite pulping effluent.

Name: KIMBERLY-CLARK OF CANADA LTD

Location: St. Catharines Watercourse: Old Welland Canal

Established: 1912

Employees: 200
Employs 0.2% of the local working labour force

Products & fine papers, 15 tpd
Capacities: tissues, 85 tpd

Major Capital Items - Environment:

	Immediate Joint	1979-1980 Pollution	Long-Term Joint	1981-1990 Pollution
in-plant controls	-	0.3*	-	-
sewer construction	-	-	-	1.8

* Legally committed under a Program Approval which was issued on
October 21, 1977 with a final completion date of January 1, 1981.

Name: KIMBERLY-CLARK OF CANADA LTD

Location: Terrace Bay Watercourse: Moberly Bay, Lake Superior

Established: 1948

Employees: 650 pulp mill, 80 sawmill, 1000 woods
Employs 48.6% of the local working labour force

Products & kraft market pulp, 1250 tpd (70% captive)
Capacities: lumber (2 x 4 studs), 35 million board feet per year

Major Capital Items - Environment:

	Immediate	1979-1980	Long-Term	1980-1990
	Joint	Pollution	Joint	Pollution
miscellaneous	-	4.0	-	-

Comments:

- a new kraft mill (900 tpd) was completed in 1978.

Name: THE ONTARIO PAPER COMPANY LTD

Location: Thorold Watercourse: Old Welland Canal

Established: 1913

Employees: 1200 pulp & paper mill, 190 woods
Employs 1.4% of the local working labour force

Products & Capacities: newsprint, 680 tpd
sulfite market pulp, 65 tpd
vanillin, 6.5 million lbs/yr
ethyl alcohol, 1.2 million imp. gal/yr
saltcake, 70,000 tons/yr

Major Capital Items - Environment:

	Immediate Joint	1979-1982 Pollution	Long-Term Joint	1983-1990 Pollution
disc filter	-	0.4*	-	-
reduce colour & foam	-	3.1*	-	-
boiler conversion to gas	-	0.4*	-	-
environmental costs of new mill	-	-	-	10.0
other improvements	-	3.0*	-	-

* Legally committed under a Control Order which was issued November 10, 1977 with a final completion date of December 31, 1982.

Comments:

- the vanillin plant is the largest in the world.
- the pulp and paper mill is obsolete and modernization studies are underway. Sulfite pulping would be retained to provide raw material for the vanillin and alcohol operations.

Name: REED PAPER LTD

Location: Dryden Watercourse: Wabigoon River

Established: 1915

Employees: 1000 pulp & paper mill, 100 sawmill, 600 woods
Employs 38.4% of the local working labour force

Products & Capacities: kraft market pulp, 420 tpd
printing & fine papers, 185 tpd
lumber, 38 million board feet per year

Major Capital Items - Environment:

	Immediate Joint	1979-1986 Pollution	Long-Term Joint	1987-1990 Pollution
secondary effluent treatment	-	10.5	-	-
spill collection system	-	2.2	-	-
clarifier	-	2.5	-	-
black liquor oxidation	-	1.5	-	-
condensate stripping & incineration	-	2.3	-	-
tertiary treatment, and revamped bleachery	-	-	20.0	10.0

Comments:

- the old chlor-alkali plant was replaced in 1975 to eliminate mercury discharge.
- earlier compliance deadlines were not met. The pending Control Order is being delayed.
- environmental improvement is integrally tied to the major modernization needs of the mill.

Name: SPRUCE FALLS POWER AND PAPER COMPANY LTD

Location: Kapuskasing Watercourse: Kapuskasing River

Established: 1928

Employees: 1600 pulp & paper mill, 100 sawmill, 625 woods
Employs 37.7% of the local working labour force

Products & Capacities: newsprint, 975 tpd
sulfite market pulp, 200 tpd
lumber (2 x 4 studs), 60 million board feet per year

Major Capital Items - Environment:

	Immediate Joint	1979-1982 Pollution	Long-Term Joint	1983-1990 Pollution
TMP mill	16.0	-	-	-
improve magnesite mill	8.0	6.6*	-	-
two clarifiers	-	5.7*	-	-
aeration lagoon	-	5.5*	-	-
miscellaneous environmental projects	-	-	-	1.0

* Legally committed under a Control Order which was issued March 30, 1977 with a completion date of December 31, 1982.

Comments:

- a TMP mill (200 tpd) was completed in 1976.
- all committed expenditures are underway as part of a modernization/abatement program which will include another TMP mill (200 tpd).

PULP & PAPER MILLS NOT LISTED SEPARATELY

<u>COMPANY</u>	<u>LOCATION</u>	<u>DATA</u>
Abitibi Paper Company Ltd	Georgetown	established 1854 fine papers, 60 tpd employees: 100
Atlantic Packaging Products Ltd	Scarborough	established 1968 linerboard & corrugating medium, 250 tpd employees: 90
The Beaver Wood Fibre Company Ltd	Thorold	established 1913 paperboard, 250 tpd employees: 220
The Continental Group of Canada Ltd	Toronto	established 1936 boxboard & linerboard, 420 tpd employees: 290
Dominion Cellulose Company Ltd (Canadian International Paper Co. Ltd)	Toronto	established 1937 tissues, 135 tpd employees: 510
Domtar Construction Materials Ltd (Domtar Inc.)	Thorold	established 1920 building papers, 105 tpd employees: 50
Domtar Fine Papers Ltd (Domtar Inc.)	Toronto	established 1827 fine papers, 35 tpd employees: 100
IKO Industries Ltd	Brampton	established 1964 roofing felt, 120 tpd employees: 50
Kimberly-Clark of Canada Ltd	Huntsville	established 1971 tissues, 115 tpd employees: 100
Kimberly-Clark of Canada Ltd	Kapuskasing	established 1944 tissues, 80 tpd employees: 100
Nordfibre Company	North Bay	established 1957 building boards, 120 tpd employees: 200
Reed Paper Ltd	Mississauga	established 1976 linerboard & corrugating medium, 240 tpd employees: 110

<u>COMPANY</u>	<u>LOCATION</u>	<u>DATA</u>
Rolland Paper Company Ltd	Scarborough	established 1938 fine papers, 60 tpd employees: 200
Sonoco Ltd	Brantford	established 1933 paperboard, 130 tpd employees: 300
Strathcona Paper Company Ltd	Napanee	established 1870 boxboard, 135 tpd employees: 220
Trent Valley Paperboard Mills	Trenton	established 1890 paperboard, 200 tpd employees: 160

MAJOR CAPITAL ITEMS - ENVIRONMENT (all 16 mills)

<u>Immediate</u> <u>Joint</u>	<u>1979-1982</u> <u>Pollution</u>	<u>Long-Term</u> <u>Joint</u>	<u>1983-1990</u> <u>Pollution</u>
0.2	0.2	2.0	1.3

